REMARKS

Claims 3, 5-15, 18, 20, 22, 24-60 are currently pending in the application. In response to Examiner rejections and objections: Claims 1-2, 4, 16-17, 19, 21, and 23 have been cancelled; Claims 3, 5-6, 15, 35, 48-49, and 58 have been amended; and Claims 59-60 have been added. Several amendments to the specification have been made in order to correct minor errors pointed out by the Examiner, and a new shorter Abstract has been presented. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Acceptance of the drawings filed on 02/16/2001 is hereby acknowledged.

Claim 58 has been objected to for a minor informality. The informality has been corrected by amendment of Claim 58.

Claims 15, 35, 48, and 49 have been rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully submit that the rejections are overcome and that Claims 15, 35, 48, and 49, as amended herein, particular point out and distinctly claim the subject matter of the invention.

Claim 15 has been amended to replace the phrase "at least one of the fiber-ring resonators" (which lacks antecedent basis) with the phrase the fiber-ring resonator (which finds antecedent basis in parent Claim 12). Claim 35 has been amended to replace the phrase "fiber-ring" (which lacks antecedent basis) with the phrase resonator segment (which finds antecedent basis in the third line of the claim as shown herein). Claims 48 and 49 have been amended to refer to an optical WDM system rather than "the" optical WDM system, thereby correcting a lack of proper antecedent basis.

Claims 55-58 have been rejected under 35 USC §102(b) as anticipated by Ho (US6009115). Applicants respectfully submit that Claims 55-58 and new Claims 59-60 patentably distinguish over Little, for the following reasons.

Each of the rejected claims specifically recites, both in the preamble and body of the claim, a "fiber-ring optical resonator", i.e., an optical resonator formed on/from an optical fiber. Ho only discloses ring resonators formed from semiconductor materials on a semiconductor substrate. Ho does not disclose use of fiber-ring resonators. Since an element recited in the claims is not present in the reference, Applicants respectfully submit rejection under 35 USC §102 is improper and should be withdrawn. Further, it is well known that such structures are typically formed by lithography, and once formed

cannot be readily altered in diameter, width, or refractive index, and the semiconductor materials typically employed are not susceptible to alteration of refractive index by UV-irradiation (as is the case for silica-based optical fiber materials). Therefore, Ho cannot show, teach, suggest, or motivate the methods of Claims 55-60, and Applicants respectfully submit any rejection under 35 USC §103 in view of Ho would be improper.

Claims 1-4, 11, 16-26, and 51 have been rejected under 35 USC §103(a) as unpatentable over any of Kuwata-Gonokami (Opt. Lett. - Oct 1995), Frolov 1 (Appl. Phys. Lett. – April 1998), and Frolov 2 (Appl. Phys. Lett. – June 1998). Applicants respectfully submit that Claims 3, 11, 18, 20, 22, 24-26, and 51 patentably distinguish over Kuwata-Gonokami, Frolov 1, and Frolov 2, for the following reasons.

Regarding Claims 3 (rewritten in independent form to include all elements and limitations of parent Claims 1 and 2) and 20, the claims recite a fiber-ring resonator formed by removal of material from the fiber. The resonator therefore comprises material that was originally part of the optical fiber. The cited references, in contrast, only disclose fiber-ring resonators formed by *addition* of material to the fiber to form the resonator. Modifying the devices disclosed in the references to be formed by removal of material from the fiber would render them inoperative for their intended purposes. The devices of the references are intended to function as laser media, and therefore must be formed from laser-dye-doped polymer (Kuwata-Gonokami) or from π-conjugated polymers. A fiber-ring resonator formed by removal of material from an optical fiber would not contain laser dye or π-conjugated polymer, and therefore could not function as a laser. Since modification of the devices of the cited references to conform with the rejected claim would render them inoperative, Applicants respectfully submit that rejection of Claims 3 and 20 as unpatentable over the cited references is improper, and should be withdrawn.

Regarding Claims 11 and 51, Examiner has stated that among the reasons for allowability of other claims in the application is the inclusion of an evanescently-coupled optical element. Both of Claims 11 and 51 include an optical element evanescently coupled to the fiber-ring resonator. None of the cited references disclose, teach, or suggest an optical element evanescently-coupled to the fiber-ring resonator. Accordingly, Applicants respectfully submit that the rejection under 35 USC §103 over these references is improper, and should be withdrawn.

Regarding Claims 18 and 22, the claims recite a fiber-ring resonator formed from silica-based material. The cited references, in contrast, only disclose fiber-ring

resonators formed from polymer material. Modifying the devices disclosed in the references to be formed from silica-based material would render them inoperative for their intended purposes. The devices of the references are intended to function as laser media, and therefore must be formed from laser-dye-doped polymer (Kuwata-Gonokami) or from π-conjugated polymers. A fiber-ring resonator formed from silica-based material could not contain laser dye or π-conjugated polymer, and therefore could not function as a laser. Since modification of the devices of the cited references to conform with the rejected claim would render them inoperative, Applicants respectfully submit that rejection of Claims 18 and 22 as unpatentable over the cited references is improper, and should be withdrawn.

Regarding Claims 24-26, the claims recite a fiber-ring resonator formed by densification of a segment of an optical fiber, thereby increasing its refractive index relative to neighboring segments of the optical fiber. Claims 25 and 26 recited specific techniques for the densification (UV-irradiation and doping of the fiber, respectively). The cited references teach only formation of a fiber-ring resonator by *addition* of material around a fiber, but do not disclose, teach, suggest, or motivate formation of a fiber-ring resonator by densification of the optical fiber itself. Since elements of the rejected claims are absent from the cited references, and since there no suggestion or motivation has been shown for modifying the references, Applicants respectfully submit that rejection of Claims 24-26 under 35 USC §103 over the cited references is improper, and should be withdrawn.

In view of the above, it is submitted that Claims 3, 5-7, 11, 18, 20, 22, 24-26, and 55-58, as amended, as well as new Claims 59-60, are in condition for allowance. Reconsideration of the rejections and objection is respectfully requested. Applicants acknowledge allowance of Claims 8-10, 12-14, 27-34, 36-47, 50, and 52-54. Allowance of Claims 3, 5-7, 11, 18, 20, 22, 24-26, and 55-60 and issuance of a Notice of Allowance at an early date is earnestly solicited.

Respectfully submitted,

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